OBJECTIVES: Although the relationship between use of glucocorticoids (GC) and occurrence of adverse events (AE) is widely acknowledged, the estimation of risk size of specific AE is still imprecise. The aim of study was to quantify the incidence and economic cost of selected steroid-related AE in GC-users regardless of baseline chronic disease. **METHODS:** Review of the available data about the consequences of long-term use of oral GC (depending on prednisone or its equivalent dose and period of use) was conducted. From 162 full-text publications (10024 abstracts), four with mixed population and >5 years median follow–up were valuable. Hip fracture (HFr), cataract (CAT) and diabetes mellitus (DM) were chosen as the common and most cost generating AE connected with oral GC treatment. A Markov model with a lifetime horizon (30 years) was developed to forecast incidence and health care cost of three regimen (non-GC, low dose GC <2.5 mg, high dose GC >7.5 mg). Direct medical costs were included in the analysis. **RESULTS:** For a lifetime horizon the incidence of HFr, CAT and DM increased from 0.77% to 5.49%, 23.48% to 91.04% and 12.34% to 17.02% (7.1, 3.9, 1.4 fold increase) respectively for comparison non-GC versus high dose GC. For selected cohort of 1,000 you need to treat 34, 2, 22 patients respectively (low dose GC instead of high dose GC) to prevent one additional case of HFr, CAT, DM. Shorter duration of steroid therapy (5 years) provide two Quality-Adjusted Life Months gained (per one patient) and leads to 2,230, 35,460, 6,920 avoided cases of HFr, CAT, DM (per 100,000 cohort). The use of low-dose or non-GC is cost-effective strategy (total cost per patient 2,958 PLN, 1,301 PLN, respectively) compared with high-dose GC (10,823 PLN). **CONCLUSIONS:** Oral GC treatment can lead to dose-dependent increase in the risk of selected AE.

PIH21

POTENTIALLY INAPPROPRIATE MEDICATION IN THE ELDERLY – RELEVANCE AND ECONOMICS OF THE 30 TOP-SELLING PRISCUS AGENTS IN GERMANY

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OBJECTIVES: Some drugs increase risk for adverse effects in elderly patients. Accordingly, lists of potentially inappropriate medication (PIM) that should be avoided in elderly patients have been proposed. In 2010 an expert panel published a PIM list adapted to the German drug market (PRISCUS-list) which lists 83 inappropriate agents and their recommended surrogates. This study calculates the amount of drug reimbursement of PIM and the potential saving using appropriate surrogates recommended by the PRISCUS list from the perspective of statutory health insurance (SHI). **METHODS:** Data was provided by AOK Research Institute (WIdO). Study material consists of a register extraction of the top 30 drugs (by sales) on PRISCUS-list in 2009 for patients ≥65 years of the entire SHI-population. We calculated the percentage of sales and defined daily doses (DDD) for patients ≥65 compared to the total SHI-population. Costs for the recommended substitution were estimated by different scenarios. **RESULTS:** In 2009, the proportion of the top 30 drugs on the PRISCUS-list that were prescribed to patients ≥65 was 58.2%. Sotalol was the drug with the largest proportion of DDD prescribed to patients ≥65 (92.9%). Drug reimbursement for the top 30 PIM medications prescribed to patients ≥65 were €305.7 million (54.3% of total reimbursement). Reimbursement for Solifenacin was highest with €32.5 million. Prescription of the surrogates would lead to increasing costs for the German health care system. Those were calculated to range between €325.9 million and €810.0 million. **CONCLUSIONS:** This is the first study assessing the economic burden of PIM according to PRISCUS-list in Germany. The results show that a more appropriate medication for the elderly comes along with additional costs. For a final evaluation of relevance and economics of PIM, costs of adverse drug events caused by PIM and clinical feasibility of substitution have to be taken into consideration.

PIH22

COST-EFFECTIVENESS ANALYSIS OF USE OF DYDROGESTERONE IN PREMENSTRUAL SYNDROME

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OBJECTIVES: The primary objective of the study was the analysis of pharmacoeconomic expediency of administration of dydrogesterone (Duphaston®) for premenstrual syndrome (PMS) treatment in comparison with micronized progesterone (Utrogestan®). **METHODS:** The mathematical modeling with dydrogesterone or micronized progesterone was applied in the study. For the calculation of the efficacy data of clinical trials were used. Costs were calculated on the basis of Russian prices (grls. rosminzdrav. ru). The model was constructed as following: for each branch of the decision tree, cost and efficacy for a group of 100 patients (female aged 18 – 45 years) and per patient were analyzed. Modeling duration was 3 months (therapy during three cycles). The cost-effectiveness ratio (CER) and incremental cost-effectiveness ratio (ICERs) were calculated. Results were evaluated to cost-effectiveness threshold. Efficiency was estimated on the basis of clinical trials (effectiveness). Calculation of cost included: the cost of drugs administration course; costs of consultative and diagnostic appointments of the gynecologist; the cost of inefficient therapy – costs of additional diagnostic examination. The comprehensive sensitivity analysis was performed. **RESULTS:** The cost of the total course of therapy with dydrogesterone was more expensive in comparison with micronized progesterone – 84,1 EUR against 82,6 EUR. Strategy of administration of dydrogesterone showed more efficiency in comparison with micronized progesteron (8% increase of effectiveness). CER for dydrogesterone and micronized progesterone were 115.20 and 127.07 respectively. The ICER was 18.75 Eur per patient that is much lower than a cost-effectiveness threshold in Russia (27922.8 EUR). The sensitivity analysis confirmed conclusions of the main scenario. **CONCLUSIONS:** The strategy of administration of dydrogesterone in PMS is economically expedient from the point of view of cost-effectiveness ratio. In addition, increase of effectiveness was noted for use of dydrogesterone. The study was conducted at Abbott support.

PIH23

COST-BENEFIT MODEL OF VARYING NEXPLANON AND OTHER LONG-ACTING REVERSIBLE CONTRACEPTIVE (LARC) METHODS: UPTAKE COMPARED TO THE ORAL CONTRACEPTIVE PILL: UK PERSPECTIVE

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OBJECTIVES: Cost is considered one of the major barriers to greater use of LARC (Long-Acting Reversible Contraceptive) methods, especially cost of treatment initiation. However, when considering their contraceptive efficacy alongside cost of pregnancy, LARC methods are deemed by NICE to be more cost-effective than combined oral contraceptive pills even at one year of use. (NICE LARC CG30 2005). **METHODS:** A 3 year time-horizon cost-benefit model was developed to assess budgetary impact of increasing LARC uptake (implant, IUD, IUS and injectable) compared to the oral contraceptive pill, in UK women aged 16-49 who currently use the following contraceptives of interest: non-LARC method (defined as contraceptive pill only) or LARC methods (IUD, IUS, injectable, implant). A weighted-average price based on current market shares was calculated, for all contraceptive pills currently available in the UK. Increased uptake of any LARC method was offset against a reduction in contraceptive pill usage. Unintended pregnancies, based on typical failure rate, occurring with all treatments considered was taken into account. **RESULTS:** Of approximately 14,750,000 women aged 16-49 in the UK, official statistics confirm 37% use contraceptive methods of interest to our model. This proportion formed our cohort of approximately 5,500,000 UK women aged 16-49, which was followed over a 3 year time horizon. A 100% increase in uptake of each LARC method would lead to a 49% decrease in oral contraceptive pill uptake. Over a three year period this would save 374,794 unintended pregnancies, and elicit financial savings of £630,831,022, on which £54,098,847 is attributable to treatment costs (ingredient, consultations, removal/insertion costs) and £576,732,175 to the cost of unintended pregnancies (live birth, miscarriage, abortion, ectopic pregnancy). **CONCLUSIONS:** The model projects that increasing LARC uptake will result in a significant reduction in the number of unintended pregnancies, with consequent savings to the NHS across the UK.

PIH24

MISOPROSTOL VAGINAL INSERT PHARMACOECONOMIC MODEL FOR 5 EUROPEAN COUNTRIES

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OBJECTIVES: Our aim was to assess the costs and consequences of labour induction using misoprostol vaginal insert (MVI) compared with currently used technologies using a specifically developed user-friendly decision model developed for Austria, Poland, Romania, Russia and Slovakia. **METHODS:** The model was developed in Microsoft Office Excel and compares clinical and safety aspects like time to vaginal delivery, time to active labour, occurrence of cesarean delivery and adverse events of MVI with selected comparators. Efficacy and safety data were retrieved from targeted literature review, conducted in the main medical databases. Country-specific information about costs and resource use was incorporated into the model. Local data were collected for each country via a specifically developed questionnaire. The model considered the hospital and public payer perspectives. The model generated results as an incremental difference between the total costs related to labour induction with MVI or a comparator. The threshold price of MVI was also calculated. **RESULTS:** Local Key Opinion Leaders recommended the following comparators: dinoprostone vaginal insert (DVI; Austria), dinoprostone vaginal tablets (Dtab; Austria, Slovakia), dinoprostone cervical gel (Dgel; Poland, Russia, Slovakia) and oxytocin (Austria, Poland, Romania, Russia). The hospital perspective was chosen as default (additionally the public payer perspective was adopted for 2 countries). The use of MVI in most scenarios is related to a reduction in time consumption of hospital staff and in the length of patients' stay in hospital wards. MVI was less costly or marginally more expensive in 80% of cases. **CONCLUSIONS:** Induction of labour with the use of MVI using a hospital perspective, brought savings in most countries and scenarios in comparison to other prostaglandins (DVI, Dtab, Dgel).

PIH25

COST EFFECTIVENESS ANALYSIS OF A VACCINATION PROGRAMME FOR THE PREVENTION OF HERPES ZOSTER AND POST-HERPETIC NEURALGIA IN ADULTS AGED 65 AND OVER IN NORWAY

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OBJECTIVES: Herpes Zoster is a very painful and debilitating disease for which no satisfactory treatment exist. A vaccine is licensed in Europe for the prevention of Herpes Zoster (HZ) and postherpetic neuralgia (PHN) in adults aged ≥50 years and is recommended in France and UK. The objective of this study was to assess the cost-effectiveness of vaccination programs in people aged 65 years and over in Norway. **METHODS:** An existing European Markov cohort Model was adapted to the Norwegian health care setting. Health states considered are healthy, HZ, PHN, healthy post-HZ and death. HZ and PHN states are further split by pain severity (mild, moderate or severe). A vaccine efficacy durability model based on the pivotal trial data was included to simulate waning in the efficacy. The cost-effectiveness outcomes were assessed from both the third party payer and the societal perspective. First, analysis comparing a HZ vaccination policy for adults aged ≥65 years with a no vaccination policy was done. Then, analysis comparing vaccination policies of 5-years age class cohorts (from 65 to 100 years old) to a no vaccination policy were conducted. Input data were obtained from Norwegian sources whenever avail-